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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/695,551      | 10/28/2003  | John L. Loth         | 193                 | 5471             |

7590 05/28/2004  
WVURC West Virginia University Research Coporation  
Office of Technology Transfer  
Attn: Dr. Shannon Sheehan  
PO Box 6216  
Morgantown, WV 26506-6216

EXAMINER

HESS, DOUGLAS A

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3651

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/695,551

Applicant(s)

LOTH, JOHN L.

Examiner

Douglas A Hess

Art Unit

3651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19-33 and 36 is/are rejected.
- 7) ☒ Claim(s) 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it contains two paragraphs, instead of the accepted one paragraph. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 recites the limitation "the two external bearing housings" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 recites the limitation "the surrounding fluid" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19-26, 28-30, 32, 33, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook (US Pat. 5,234,100).

See the attached marked up copy of the Cook cover sheet depicting the claimed features.

RE claim 33, the functional application does not carry patentable weight, since one could use the device of Cook in that environment.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook .

Cook teaches the claimed invention as outlined above except for either an anchor bolt or a tie rod to hold the outer bearings together. Instead Cook uses a flange as labeled on the cover sheet. Cook does disclose a tie rod (14) in his prior art figure 1. It would have been obvious to

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one of ordinary skill in the art at the time the invention was made to utilize one of many well known functional equivalents, such as an anchor bolt or a flange at the outer bearing race as taught by Cook or any number of other well known equivalents. The examiner thereby takes Official Notice of these well known equivalents in the conveying arts.

***Allowable Subject Matter***

9. Claims 1-18 are allowed.
10. Claim 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
11. Claims 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Hess whose telephone number is 703-308-3428. The examiner can normally be reached on M-Thurs 5:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on 703-308-2560. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Douglas A Hess  
Primary Examiner  
Art Unit 3651

5-25-04

DAH  
May 25, 2004

# United States Patent [19]

Cook

US005234100A

[11] Patent Number: 5,234,100

[45] Date of Patent: Aug. 10, 1993

[54] CONVEYOR IDLERS AND ROLLERS AND BEARING HOUSING ASSEMBLIES FOR THEM

[75] Inventor: Anthony V. Cook, Hallow, England

[73] Assignee: Edwin Lowe Limited, Birmingham, England

[21] Appl. No.: 739,105

[22] Filed: Jul. 31, 1991

[30] Foreign Application Priority Data

Oct. 4, 1990 [GB] United Kingdom ..... 9021552

[51] Int. Cl.<sup>5</sup> ..... B65G 39/10

[52] U.S. Cl. .... 198/842; 384/518; 384/563

[58] Field of Search ..... 384/517, 518, 563, 477, 384/486, 546; 198/842

[56] References Cited

## U.S. PATENT DOCUMENTS

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| 2,509,587 | 5/1950  | Creson              | 384/518   |
| 2,736,617 | 2/1956  | Lippmann            | 384/563   |
| 3,554,620 | 1/1971  | Dalton              |           |
| 4,227,755 | 10/1980 | Lundberg            | 384/518   |
| 4,364,615 | 12/1982 | Euler               | 384/517   |
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| 4,643,300 | 2/1987  | Morrison            | 198/842   |
| 4,699,528 | 10/1987 | Gotman              | 384/518 X |
| 4,732,495 | 3/1988  | Brandenstein et al. | 384/518   |

4,913,564 4/1990 Stephan et al. .... 384/518  
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## FOREIGN PATENT DOCUMENTS

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| 3139435  | 8/1982  | Fed. Rep. of Germany |
| 3215888  | 11/1983 | Fed. Rep. of Germany |
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| 2024264  | 8/1970  | France               |
| 1062112  | 3/1967  | United Kingdom       |
| 1288794  | 9/1972  | United Kingdom       |
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| 2059011  | 4/1981  | United Kingdom       |
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Primary Examiner—D. Glenn Dayoan

Attorney, Agent, or Firm—Leydig, Voit & Mayer

[57] ABSTRACT

A bearing housing assembly for a roller includes a housing; bearings provided in the housing and having first and second bearing components provided in the housing with the components being relatively rotatable, a retaining cup holding the components in the housing, and a resilient biasing device held in the housing so as to transmit force to at least one of the components so as to urge the components relative to the housing. The biasing device is preferably a frusto-conical spring and the bearings are preferably taper roller bearings.

19 Claims, 4 Drawing Sheets

